ABSTRACT

A method of etching a barrier layer in an integrated circuit (IC) wherein said barrier layer is composed of silicon nitride or silicon carbide. The method comprises receiving an etched IC structure having an exposed barrier layer. The method then proceeds to apply an etchant gas mixture comprising a nitrous oxide (N_2O) gas and a fluoromethane (CH_3F) gas. The etchant gas mixture provides a relatively high selectivity between the barrier layer to an adjacent dielectric layer.